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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/901,663

07/11/2001

Hiroshi Asahina

Q65417

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03/11/2005

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EXAMINER

JUNG, MIN

ART UNIT

PAPER NUMBER

2663

DATE MAILED: 03/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No.	Applicant(s)	
	09/901,663	ASAHINA, HIROSHI	
	Examiner	Art Unit	
	Min Jung	2663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7-11 is/are allowed.
- 6) ☒ Claim(s) 1-4 and 12-15 is/are rejected.
- 7) ☒ Claim(s) 5 and 6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12-5-03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, and 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ludwig et al. patent, 6,697,352 (Ludwig).

Ludwig discloses a communication device and method in which data packet layer-to-layer processing is shown.

Specifically, regarding claims 12-15, Ludwig shows (following the recitation in claim 14) an interworking apparatus (MSC/IWF of Fig. 6, and the functions shown) operable in accordance with a radio communication protocol (RLP) which defines use of a plurality of radio channels variable in number (a plurality of radio channels are inherent in Ludwig because MSC and BTS are taught and they are known to handle a plurality of multiplexed radio channels) and another protocol different from the radio communication protocol (PPP, col. 9, lines 48-54) comprising: framing means for framing frames on an upper layer on the basis of another protocol (imbedding means 3 shown in fig. 8, col. 10, lines 18-28, and also see Fig. 5 for encapsulation); memory means for storing frames (output buffer 5); and transmitting means for transmitting the stored frames through the radio channel (inherent form the network shown in Fig. 6 or

Fig. 10). What Ludwig fails to specifically teach is a memory means for individually and separately storing each of the frames one by one in correspondence with the plurality of the radio channels. Ludwig, however, teaches separate queues in the output buffer into which respective packets of layer n can be placed. See col. 11, lines 12-14. These separate queues are not for handling plurality of radio channels, but for handling different modes of transmission. However, it is apparent that Ludwig teaches employing a plurality of multiplexed channels in a network interworking radio communication protocol (RLP) and another different protocol (PPP), and Ludwig also teaches a plurality of different queues for storing frames. Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to implement Ludwig's teaching by employing separate memory spaces for storing each of the frames corresponding to the plurality of channels to provide canalized framing of data packets.

Further, regarding claims 1-4, Ludwig teaches the communication system and method which includes the functions of the interworking apparatus as addressed above, and further includes the functions of framing IP frames into PPP frames (Fig. 5, col. 2, lines 23-27). Again, what Ludwig fails to specifically teach is the transmitting frame memory means, which are assigned to the radio links, respectively, for storing the PPP frames one by one, respectively. Ludwig, however, teaches separate queues in the output buffer into which respective packets of layer n can be placed. See col. 11, lines 12-14. These separate queues are not for handling plurality of radio channels, but for handling different modes of transmission. However, it is apparent that Ludwig teaches employing a plurality of multiplexed channels in a network interworking radio

communication protocol (RLP) and another different protocol (PPP), and Ludwig also teaches a plurality of different queues for storing frames. Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to implement Ludwig's teaching by employing separate memory spaces for storing each of the frames corresponding to the plurality of channels to provide canalized framing of data packets.

Allowable Subject Matter

3. Claims 7-11 are allowed.
4. Claims 5-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Oh et al patent, the Lioy et al. patent, the Seo patent, the Lee et al. patent, the Lim patent, and the Feder et al. patent are cited for further references.

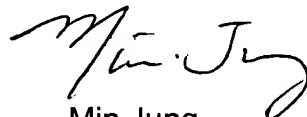
6 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Min Jung whose telephone number is 571-272-3127. The examiner can normally be reached on Monday, Thursday, Friday 7:30 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2663

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MJ
March 5, 2005



Min Jung
Primary Examiner